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Identifying Requirements for Instituting a Mandatory

Fire Watch Inside an Occupancy

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and appropriate credit is given where I have used the language, ideas, expressions, or writings of another .

Signed_____

ABSTRACT

The City of Pittsburgh is experiencing building owners who are not following the fire code to establish a proper fire watch when the life safety systems are compromised. The effect is that tenants and firefighters lives are being put into jeopardy. This descriptive research, is to identify and outline a protocol that will be made accessible to all citizens/ tenants and building owners/agents by the Pittsburgh Bureau of Fire (PBF). When implemented outlines the conditions that warrant the need to establish a fire watch. This protocol, may aide compliance with applicable codes and expedite notification and restoration of the life safety systems. The questions that needed answered were what types of occupancies will the fire watch apply? When do other Fire departments require a fire watch? Within what time frame of system shutdown will the fire watch apply? What qualifications will the individual(s) performing the fire watch have to possess? What are the legal ramifications of establishing and enforcing a fire watch? The research included review of the types of occupancies that Pittsburgh experienced violations, a literature review and review of the codes adopted by the city and national standards for establishing a fire watch. Life Safety/Fire Prevention personnel were surveyed, some were interviewed including a legal professional. The research concluded that a variety of occupancy types were routinely compromised. Ignorance of proper reporting procedures was identified. Recommendations include that where the fire code official believes a life safety hazard exists to responders or occupants, will require a fire watch. Accessibility to the protocol, outlining the need to establish a fire watch as well as the initial steps to take, and who is to take these steps identified. The protocol will be monitored when posted on the PBF website, so that tenants and owners will know what is expected.

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Identifying Requirements for Instituting a Mandatory Firewatch Inside an Occupancy

The Pittsburgh Bureau of Fire (PBF), has been experiencing an increase in building owners who are not notifying the PBF, nor following proper life safety protocol, to establish a proper fire watch in their occupancies when the life safety systems are compromised. This behavior puts the tenants of those buildings and firefighters potentially in harm's way.

The increase in the number of instances where the PBF is not being notified or have arrived on scene to occupancies and found compromised life safety systems, or notification of system failure was not made, has grown significantly in the last 3 years (Pittsburgh F.A, 2008-2011). Cuts in personnel have been felt nationwide, and the same holds true for PBF. In 2005 Fire Prevention Inspectors were eliminated in the Pittsburgh Bureau of Fire, and they would normally have been the point of contact, for building owners and alarm companies to notify when system were compromised for any reason. The Bureau of Fire Inspectors were responsible for specific area or zones within city limits. Once Inspectors in the bureau of Fire were eliminated this was not communicated to the public or private property owners. Nor was instruction of who to contact to witness existing system testing, nor who to contact when the systems were in trouble or impaired.

In the last six years the Bureau of Building Inspection hired five civilian Fire Inspectors, and has been able to retain only three. Their primary area of responsibility has been to perform witness acceptance testing of new fire alarm, and water based life safety systems. Currently there is no city entity that specifically is assigned to police compliance of accepted systems after initial installation and of those existing systems. This policing, by code adopted by the state of PA, the IFC (Council, I.C. 2009), was supposed to be accomplished by the building owner or agent and using a third party testing and witness, in which the company performing the test, also notifies

the state certified UCC witness. The problem is that the majority of building owners were never informed that this was a new practice, and have been stumbling upon it since 2006.

Because the Bureau of Building Inspection (BBI) inspectors are the only ones who have been on site in new installations (installations within the last six years) many times the bureau of building inspection and inspectors are the entity notified when a system is down for repairs or malfunctioning and that notification is never passed on to the Fire bureau because building owners and service companies are not aware that informing a building inspector wearing a patch that says fire inspector is different than notifying the fire department.

The BBI personnel assigned to fire inspection or witness testing duties are not in the fire bureau so they don't actually have the authority or knowledge of firefighting strategy and tactics to establish the parameters for a proper fire watch when it is necessary for a specific occupancy. Nor is there a sense of urgency or emergency to any aspect of their responsibilities, nor are they expected to take on that responsibility. The fire bureau would tend to agree, however the fire bureau is not being made aware many times when systems are compromised or shut down for any period of time and life safety is our sense of urgency and our responsibility.

Using a descriptive research method, the purpose of this research was to identify and then publicize a protocol, that, after adoption would be posted to the Fire Bureau website, making it accessible to building owners, agents tenants and citizens. It was hoped that, armed with knowledge or access to the proper protocol or direction that defines when owners would be required to institute a fire watch, this would aide in policing issues of compliance of a fire watch if necessary, or required based upon the type of occupancy. Outlining the purpose of the research is to provide recommendations that would provide the city of Pittsburgh Bureau of Fire, best practices and avenues to accomplish the above.

The questions that the research attempted to address to identify clear parameters of when to establish a fire watch, and to identify: (a) What types of existing occupancies will the fire watch apply?(b) When do other Fire departments require a fire watch? (c) Within what time frame of life safety system shutdown will the fire watch apply? (d) What qualifications, if any, will the individual performing the fire watch have to possess? (e) What are the legal ramifications or aspects of establishing and enforcing a fire watch?

BACKGROUND AND SIGNIFICANCE

The Pittsburgh Bureau of Fire (PBF) provides service to a diverse population and occupancy type within the 55.5 miles that define the city limits. The night time population according to the U.S. Census, is approximately 305,704 (2010), and a daytime population of approximately 700,000-750,000 when the college community is present and/or takes up residency. The occupancy type is as diverse as the city. Pittsburgh is considered a rust belt city with many historical buildings that date back to the 1800's. Many of those buildings still contain office space, educational facilities and some have been converted to apartments and condominiums. Mixed within historical or aged properties are high-rises that have been built from the early 1900's, through the 1950's and 60's to present day. Pittsburgh has evolved from a city known for making steel, to a city progressive in educational, medical and technology fields.

The PBF operates with 26 engines, and 11 trucks, one mobile air compressor unit (MAC) which doubles as the accountability unit on structure fires. These units are quartered in 29 fire stations located within the 88 neighborhoods that make up the city of Pittsburgh. The service that the PBF provides to its citizens, and visitors, include fire suppression, BLS-EMT, without transport, hazardous material, three full time members assigned to fire and arson investigation along with three police officers who rotate shifts that make up the Fire Investigation Division.

Two suppression personnel perform the duties of addressing the needs of the young firesetters program, on overtime if the need arises. Recently rescue training and response is being slowly added, which, historically was contractually under the direction of a separate Bureau of EMS.

For the last 7 years the city of Pittsburgh has been under the fiscal oversight of the state of Pennsylvania, which must approve the financial plan of the city and its budget every year. To that end, the fire bureau suffered significant cuts in 2005, which eliminated the position of ten Fire Inspectors, leaving only one officer and one firefighter position to address prevention and public education needs, the firefighter position has been unfilled for approximately one year.

Three civilian inspectors, were hired by the bureau of building inspection (BBI), and assigned fire inspector duties. They report to the bureau of building inspection and predominantly handle the acceptance testing of new life safety systems and major renovations of existing life safety systems. Acceptance testing requires certification under the PA state Uniform Construction Code (UCC) and closely adopts the International Code Council (ICC) group of codes, including the International Fire Code, (Council, I. C. 2009), with some exceptions. These systems are the alarm systems, the smoke and heat detection, water based sprinklers, and standpipes that are part of the life safety systems. The same systems that when activated, are supposed to begin the notification process to building owners, tenants and to initiate the actions for firefighters to respond, and when not operating properly, present significant life safety issues to both the tenants affected and firefighters responding.

Unfortunately when the decision was made to eliminate trained firefighters from performing fire inspector duties and civilians were hired to perform some fire inspector responsibilities, there were many additional responsibilities and items that were never addressed or defined and those duties simply are not being responsibly handled as stated in the IFC (Council, I. C., 2009)

without involving the fire bureau and notifying the fire bureau and the code states that this should occur, maybe this is oversight or a means to require notification has not been clearly defined. It must be noted that when the fire inspectors were eliminated from the Pittsburgh Bureau of Fire, all of the building records (predominantly in hard copy) were surrendered to the BBI, and the Fire Bureau no longer has easy access to prior records. The last code adoption that that was approved through city council municipal adoption that involved the Fire Bureau, and is still in effect, was the adoption of the 2003 IFC (Council, I. C. 2003; Municode, 2010). The municipal code of the city of Pittsburgh, still conveys that the Fire Bureau has primary jurisdiction over prevention (Municode, 2010). The Bureau of Building inspection (BBI), is predominantly using the 2009 IFC, for new construction and major renovation, as the 2009 IFC was adopted by the State of PA, with exceptions, however, the municipal code for BBI, has never increased their responsibility of policing systems that already exist (Municode, 2010).

Existing systems, those that were installed on and in buildings dating back decades, now had life safety systems that, when in trouble mode, or in need of repair or replacement, building owners are laying claim to being unsure of their responsibilities or what procedure to follow to notify of failure. There was never any notification to building owners that the PBF was no longer involved in the inspection or witness testing of existing or old systems, and now that PBF is not involved, there is confusion as to who or what entity is responsibly for notifying PBF. Problems have been escalating in the last four years as more thorough water based inspections came due. The fire bureau normally made notification to building owners that inspections were due, when PBF records indicated.

In the last few years, building owners remain confused as to who to notify when systems were impaired or receiving maintenance, and how to notify and this appears to be widespread as

several building owners have provided this information to responding companies (Pittsburgh F. A. 2008-2011; Carey, personal communication, October 25 2011). Prior to 2005, notification was made to the PBF inspector who was responsible for the territory or district under where the property address fell. At failure point the PBF inspector would advise the procedure to follow to set up a proper fire watch based on the occupancy type, and a restoration plan was advised. The PBF inspector would notify the responding fire units for that district and advise of the status of the buildings life safety systems, and/or what to expect if a call came in for that address or occupancy.

The fire bureau revamped the Company Inspection Program (CIP) in the last one and half years, to help address issues of noncompliance however, occupancies that are experiencing age and fatigue of existing systems tend to be larger occupancies, mid-rise to high rise residential or places of assembly that are more time consuming for front line fire suppression companies to address without continued interruption responding to emergency calls (Walz, 2011).

The situation has now come to the forefront, because in more than one instance firefighters or the paramedic bureau personnel have arrived to the occupancy or address for calls dispatched as a medical call from a medical alert signal, only to find that the actual emergency was smoke or fire. The alarm system in the building was shut down and a tenant was making notification of the emergency in whatever fashion they could because they could get no response or human intervention for emergencies that should have alerted an alarm initiating device alerting the emergency operations center (EOC) (Firehouse, ACS, 2008-2011).

Complicating this situation is that in some instances notification of system shutdown, or levels of compromise are not being reported to the PBF by the monitoring companies hired by the building owners. The month of September, 2011, a fire started in a bar/ restaurant with a

previously posted occupant load capability of over 400 patrons. The activation of a system occurred, late into the night, early morning, after the bar had closed, and was received by the monitoring company, however the activation alert was sent only to the owner/agent of the property and not to the county Emergency operations center (EOC). On many occasions throughout the city, night clubs are found to be filled with patrons, operating under the guise of a private club until the early morning hours. This particular system had had a false alert of a pull station 36 hours previous, a fire response to the building occurred at that time. The building owner then asked the monitoring company not to transmit the alarm to the EOC if it came in again and to instead, call the owner/agent first to investigate the alarm activation. The monitoring company did not retransmit the alarm to the county EOC when activation occurred 36 hours later. The agent for the property responded to the address, there was a fire on the second floor, the agent then called 911 alerting the EOC, who then alerted PBF. Approximately fifteen minutes elapsed from the time of the initial device notification to the alarm company supervising the occupancy to the notification made to the PBF. The monitoring company was notified, questioned and their explanation was human error as to why the PBF was not notified by the monitoring company so that a fire watch could be advised and mandated by the PBF when the alarm system was offline. (Sonitrol, personal communication, October 3, 2011).

The purpose or importance of this research is identify a procedure or protocol that is accessible to everyone, this includes building owners and/or agents, the companies that monitor the life safety systems, as well as the tenants of these occupancies that define the actions the PBF expects based on the research and occupancy type. Leadership, as was identified in the National Fire Academy (NFA), Executive Fire Officer Program (EFOP) but, specifically the Executive Leadership student manual and curriculum, conveyed that goals are only reached, when they are

valued, and those values must be addressed with action (NFA, 2010 EL. SM). That action is addressing a critical area that was overlooked several years prior when prevention personnel were eliminated. A priority must be placed on addressing the importance of the operational objectives of the U.S. Fire Administrations, to that end, it is imperative to address emerging issues, (USFA, 2001) and in Pittsburgh; ignorance of proper code compliance is rising. Taking a proactive approach to address an issue overlooked is necessary to minimize the potential for a future catastrophic incident. This research also addresses a strategic goal identified by the USFA and that is to “reduce risk at the local level through prevention and mitigation” (United States Fire Administration Executive Fire Officers Program (EFOP) Operational Policies. p. SM II-2). A clear process of establishing fire watch, the identification of who can perform fire watch, and also, troubleshooting information to identify, what if any legal ramifications or remedy in the absence of a fire watch when enforcement is or is not complied with were the goals of this project.

LITERATURE REVIEW

When the issue of Fire Code enforcement is mentioned most firefighters are well aware that the history of fire codes is written in the blood of both firefighters and citizens. The history of fire, its use for civilization and the devastation caused by fire either because of misuse or accident are the realities we live with in this world every day. The foundation of the codes used today, for example the International Fire Code (Council, I.C. 2009) and the National Fire Protection Association (NFPA) codes are born out of earlier versions and editions of code and adopted by municipalities based on the history of fires and fires devastating potential in their areas. The codes that are adopted in Pittsburgh and other national resources available had to be the starting point for this research to provide the foundation for developing a protocol for fire

watch. The code(s) adopted also help define the legal process when they are not adhered to.

Keeping in mind the reason or influence for the research and the reason we have codes at all, was found in the reflections of the Iowa State fire marshal;

We think 100 dead in a fire conflagration is behind us yet...one only has to look to the Rhode Island night club 2003 when over 100 people died because of sound proofing put on the walls and covering emergency exits. We can still see that the lack of fire code enforcement still costs hundreds of lives. Can you imagine 100 people dying in a single fire in 2003? The hardest part of my job is convincing people enforcing fire codes matter. (Reynolds, R. 2010).

For the purposes of this research a definition of fire watch will be narrowed to address specifically the impairment or shut down of the life safety systems of an occupancy or building and not with other IFC permitted areas of concern such as hot work. The issue of establishing a proper fire watch, when necessary, appears to have been exacerbated in the city of Pittsburgh in last four years primarily due to lack of communication to property owners, and a lack of dedicated fire inspection personnel dedicated to enforce the fire code adopted. The IFC defines a fire watch as:

Fire Watch, a temporary measure intended to ensure continuous and systematic surveillance of a building or portion thereof by one or more qualified individuals for the purposes of identifying and controlling fire hazards, detecting early signs of unwanted fire, raising an alarm of fire and notifying the fire department. (Council, I.C. 2009. IFC. 202. p.19.)

Ideally, and according to the International Fire Code (IFC), (Council, I.C., IFC, 2009,) “whenever a required fire protection system is out of service, the fire department and the fire

code official shall be notified immediately” (IFC. 901.7 p. 76) It would be at this point according to the IFC that the fire watch may be established by the authority having jurisdiction (AHJ) whenever life safety systems were compromised, or if the building would have to be evacuated in occupancies that were deemed too high a life safety risk, or the hazards that the occupancy presented were such that a fire watch would not be sufficient. However, review of incidents and formal written complaints submitted by PBF suppression officers indicate that many times in the last four years, fire watches are not being instituted where necessary, and life safety systems are not being restored as expeditiously as they should be (Firehouse, ACS, 2008-2011;Pittsburgh, F. A. 2008-20011).

Further the IFC (Council, I. C. 2009) provides that the National Fire Protection Standards (NFPA) that directly impact this literature review and research coincide with the parameters pertaining to the initiation of a fire watch and they are , NFPA 25, *Standard for inspection, testing and maintenance for water based fire protection systems*, the standard to follow defines the testing states “that notification of system shutdown shall notify the AHJ, the fire department if required, and the alarm receiving facility before testing or shutting down a system or its supply” (National Fire Protection Association, 2010. 4.1.3 p.10).

NFPA 72, *National Fire Alarm and Signaling Code*, (National Fire Protection Association, 2009). NFPA 72 is the code that defines all aspects of an alarm system, from signaling to inspection and testing of fire and emergency warning equipment, it has been revised since the adoption process of 2007, and changes have occurred for 2010, this may impact the initiation of fire watches in the future because of the potential delay in notification to fire bureau personnel of alarm activations or problem systems. Visiting the 2007 and 2010 versions of NFPA 72 was important to this research, because the changes may effect notification of the necessity of a fire

watch, or may impact the initiation of a fire watch in the future after the changes are adopted could yield additional problems beyond the window of this research. What is known is prior to the changes, notification of alarm activations, signaling firefighters to respond to nuisance system or problem systems that needed to be addressed, in occupancies required to have systems, (except residential), notification was required under NFPA 72 prior to 2010. (NFPA, 72, 2006).

NFPA 101, *the life safety code*, this code addressing the life safety issues related to fire, egress and life safety systems designed to keep occupants safe (NFPA 101, 2009). This code specifically defines a time frame of impairment, “more than 4 hours in a 24 hour period” (p.101.91), when reached, compels the AHJ to be notified by the building owner/agent and either the occupancy is evacuated or an approved fire watch be provided. The systems that are required, approved, and accepted by a certifying agency are the ones that must be maintained. The NFPA 101, section A.9.6.1.6, goes on to simply suggest that in a hospital setting, the person assigned to a fire watch should be someone different that staffing for a hospital, and suggests a security guard with familiarization and training. Reference is made to NFPA 601, *Standard for Security Services and Fire Loss Prevention* (National Fire Protection Association, 2010).

NFPA 601 had its foundation from the original Watchman that went back with NFPA to approximately 1925, and was a recommended “best practices” type manual for industrial settings (National Fire Protection Association, 2010). NFPA 601 was important to this research because although its origin was in the industrial setting, the growth of the document appears to go beyond the industrial setting, or hot work or other dangerous operations on a given industrial site, to include basic method of operations for security personnel for policing areas when life safety systems are impaired. The document does rely on the AHJ to decide the levels of patrol however,

in Chapter 5, under Security functions and duties, it is suggested that security officers should make rounds every hour, or as assigned by management, “where special conditions exist, such as the presence of exceptional hazards or when fire protection equipment is impaired, management shall institute additional rounds” (p. 601-5). This document also suggest that when a security officer first arrives on duty, he/she should make their initial round within the first 30 minutes of their arrival and provides similar dialogue included in reference to having training for the assignment they are taking, a means of communication, familiarity with the occupancy, a means to notify occupants and firefighters if a and emergency or fire is discovered (p. 601-10).

The Healthcare Interpretations Task Force (HITF), (Solomon, R., June, 2009; November, 2009) is an organization brought together by NFPA to aid the healthcare industry in deciphering how the NFPA standards or code will apply to healthcare facilities of any type. The research using documents from HITF (Solomon, R., June, 2009; November, 2009) helped this researcher because many times, in code enforcement and prevention, there are varying opinions on the intent or definition of a particular code reference. The issue of system impairment, or when a life safety system is considered to be out of service was addressed and enhanced, however vaguely, with in NFPA 101 edition of 2009, from the 2006 edition.

The Joint Commission is a not for profit agency that monitors medical facilities compliance with all federal laws, this organization is the accepted agency for accrediting facilities that receive funds or medical treatment achieved under Medicare and Medicaid (Joint Commission History, 2010). The Joint Commission Accreditation was recognized by the Department of Health and Human Services (DHHS), as being responsible for the upswing in making sure hospitals are prepared and compliant with emergency management standards, and this accrediting agency develops its own standards for when a fire watch would be necessary in a

health care facility. The Standards Interpretation Group (SIG) an arm of the Joint Commission, published the Life Safety, LS.01.02.01, parameter of conducting a fire watch for ambulatory care, behavioral health, critical access care, home care and hospice care, having used NFPA 101 as the reference or foundation document (Joint Commission, *Perspectives*, 2009).

Research of how different entities used the code, interpreted the codes or how they massaged the codes to fit their operations or occupancies was an important aspect for this research. Medical facilities are now a major employer in the Pittsburgh area and pose an extraordinary high life safety risk.

The IFC (Council, I.C. 2009), is the code that is being used by the city of Pittsburgh Bureau of Building inspection for new life safety systems, as this is the code that was adopted with amendment by the state of Pennsylvania. The language in the IFC (Council, I.C. 2003) that pertains to instituting a fire watch is identical to the 2009 edition. (IFC 2003; IFC 2009). The IFC references many of the NFPA codes as the standards that apply when seeking to ensure that the required elements of alarm and water based systems are functioning and when not functioning provides a potential advised protocol to follow when adopted. These references become the foundation of the research as departments across the country follow or adopt similar type of building and fire codes and most have very close language and follow similar broad advice to define when a fire watch would be required, while other departments adopt more defined procedures.

Once the code is adopted by the municipality, the defined codes, the IFC (2003, 2009), the NFPA codes, and any amendments also could serve as the basis for any legal challenge or dispute, when an owner/agent/tenant is compelled to institute a fire watch or risk being shut

down, or when a proper fire watch is not conducted at all. Industry standards many times apply in a court of law regardless of what is adopted.

Researching how other departments determine when a fire watch is necessary and also how they make their adopted policies known was important information to gather in order to assess potential issues to address in Pittsburgh and also how best to communicate those issues and the avenues to use to communicate to the stakeholders. Our stakeholders, as identified earlier are, building owners, agents, alarm monitoring companies, tenants, employees and firefighters. Searching online as most businesses, governmental agencies, and fire departments have either developed their own websites or have information technology (IT) departments that help develop the delivery method for data and material to their websites or web pages this researcher sorted through various fire departments web pages, and looked for ease of accessibility to information, and format, of the many websites that were searched Seattle Washington stood out from among the many.

The city of Seattle, Washington's website which includes access to the fire department's information is easily readable, easily negotiated and very informative (Seattle, W. 2011). The webpage for the Seattle fire department is up to date, having been last updated on September 23, 2011, which is very important. Providing up to date information to the people, who need it, can reduce confusion, and communication errors that may help occupancies comply with the code and what is requested. The Seattle fire department webpage provides thoroughly defined and explained information bulletins in "pdf" format and are available for anyone to download. These bulletins explain the requirements adopted by the City of Seattle fire department including what is expected of a fire watch, and what types of occupancies require a specific set of rules governing a fire watch (Seattle, W. Fire Department , 2011). The city of Seattle fire department

clearly define that a fire watch does not have to be performed by the fire department or a private security firm, there is also different fire watch criteria for occupancy type and specific time frames for fire watch rounds that are completed based on the occupancy type. (Seattle, F.D, 2005. Information Bulletin, 991).

If the codes were enough then there would be no need to do any further research however, many municipalities adopt their own version of a fire code, including when fire watch is necessary. Consistency exists in some jurisdictions where the code identified a time frame, however many departments have much different criteria for who is notified and who is responsible for establishing a fire watch and performing a fire watch. A period of just over 4 hours of system impairment, and then a proper fire watch would be instituted, is identified in the NFPA code (101), and is shared by many jurisdictions however some jurisdictions, or building departments have taken the position that if there are alarm or sprinkler technicians on scene, continuing to work on the system, then impairment notification is not necessary (Carroll, personal communication, October 11, 2011).

In Pittsburgh the waters are muddled as to what bureau is responsible for all of the responsibilities of fire inspection, and what historically fell under traditional fire prevention divisions in metropolitan fire departments no longer does. Where governments are looking to cut there is less value in areas that they don't understand. Fire prevention is one of those areas, where preventing catastrophes is hard to define to number crunchers. However, the fire bureau is directly affected by the lack of adherence to the fire codes, it is important that the effort be made to direct citizens, and building owners to a clear protocol to follow when they are faced with system impairments that will directly impact the lives of the occupant in these structures.

Weinreich, (2006) a communications professional, advises using different forms of media to get your message out, that was important to this research because finding ways to educate the public, and being able to track your success, particularly cost effective strategies, will be important once a defined protocol is established.

The literature review revealed that there is not a national or consistent process that allows for emergency responders to know that systems are impaired, it has become apparent in Pittsburgh that building owners/agents, tenants and the general public are not aware of how to properly address system impairment in buildings. A procedure must be adapted and education and publicity of the protocol must be accomplished so that the emergency responders, firefighters, get notification and not simply the civilian inspectors who do not respond immediately to emergency situations.

PROCEDURES

The process followed for this research began at the National Emergency Training Center, (NETC), at the Learning Resource Center (LRC) in the Spring of 2011. A return trip to the LRC after reviewing the pertinent codes that could provide framework allowed this researcher to gather enough information to devise a survey questionnaire using the free service of SurveyMonkey.com. After the results of the survey were analyzed, web searches provided additional avenues where contacts were made and interviews were conducted, of fire departments from various parts of the country providing a broader view of the research topic . An additional interview was conducted with a fire service professional and legal expert to help gather additional information that the survey and previous interviews may have missed.

Mike Whitsell, Deputy Chief and Fire Marshal in West Des Moines Fire Department, provided pertinent information as to how his department deals with alarm monitoring companies

that are not responsible. In a telephone interview on August 29, 2011, Deputy Chief Whitsell conveyed that a “three strikes you’re out” approach kept monitoring companies on their toes if they wished to continue to do business in West Des Moines and surrounding areas, that make up the responsibility of the West Des Moines Fire prevention bureau. Included in the interview was information related to the procedures followed by West Des Moines, the tagging of systems, as per the code adopted and notification to the fire department of both scheduled maintenance of system impaired, and emergency impairments.

Captain Maurice Vassar, from the city of Cincinnati in a telephone interview on October 6, 2011 with follow up correspondence by email on October 10, 2011 provided insight as to how the city of Cincinnati handles and polices systems with both planned shut downs for temporary service and emergency impairments. Cincinnati, OH, is similar to Pittsburgh, PA in age, size of the city and size of the fire department. Cincinnati, OH uses the 2007, Ohio Fire Code (OHF) with the foundation code being the 2006 edition of the IFC (Council, I.C. 2006).

After the survey was posted, and the request period almost complete, the survey initiated an interview with a Marriott life safety coordinator, a fire and life safety specialist, R. Wayne Powell contacted this researcher via email and the discussion touched on Marriott hotel chains, best practices. According to Powell, (personal communication August 5, 2011), Marriott Corporate attempt to make sure that fire watches are not necessary and highly values making sure that life safety systems are restored to service as quickly as possible and that Marriott makes this a priority and that message is conveyed uniformly to all general managers of Marriott locations. Marriott holds their general managers responsible and in doing so, frown upon fire watches because they put a priority on providing a safe environment, their business depends on it. Because of the priority put on making sure systems are operating properly, there is no defined

time period per se that sets limits or terms on the initiation of a fire watch, it is implied that the general manager will make sure that life safety issues are taken care of immediately (Powell, R. W, personal communication, August 5, 2011). Powell, provided a copy of the Marriot Corporate policy on fire watch implementation, and one of the first components listed is to notify the local fire department, and that every common area, every hall way etc be patrolled every 10 minutes (Marriott, nd.)

In San Diego, CA, Deputy Chief/Fire Marshal, Doug Perry, was interviewed via email on October 11, 2011, and he conveyed that California uses the California Fire Code, which is based on the ICC codes adopted by the State of CA, as amended for the City of San Diego, and adopted in 2010 when a system is impaired the section of the CFC (2010) and the same as the IFC , (2009) 901.7, Systems out of service, (Council, I.C, IFC, 2009). According to Deputy Chief Perry, the building owner is responsible for establishing a fire watch, using either their own personnel, or a third party. They must keep a log of hourly walks through the occupancy and have a means to notify the fire department (personal communication, October 11, 2011) In the fire code amendment, the policy spells out that the building owner must notify fire communications center and the fire prevention bureau, dispatch of the impairment, and identify what system is out of service, and they must provide a call back number for dispatch. Chief Perry conveyed that they have not had issues with this policy, with one exception and that with a property in foreclosure, and they could not identify a responsible party for about one month (personal communication, October 11, 2011). After accessing the website for the San Diego Fire Rescue department, the fire watch policy also states that occupants of the building must be notified within 24 hours that a fire watch is in place, one guard per floor is required in multi-story occupancies and a fire watch is immediate when the occupancy involves “a detection or

alarm system in high, life-risk occupancies, such as hospitals, care facilities, schools, high-rise buildings, and R-1 residential occupancies” (San Diego, C. 2010).

Both life safety expert, Powell, (personal communication, August 5, 2011) and Deputy Chief Perry (personal communication, October 11, 2011) were important interviews to this research because they both conveyed that building owners or managers were directly responsible. Both conveyed successful results with their adopted policies however Chief Powell brought up a significant and timely issue in that they had a problem with one property in foreclosure (personal communication, October 11, 2011). The city of San Diego spells out in a direct and accessible manner when and how a fire watch is to be instituted, and by whom (San Diego, C. 2010).

The survey was accomplished using the free survey tool, SurveyMonkey.com, and the base of questions was kept to a minimum of seven which still allowed for free use of the service. The link to the survey questionnaire, Fire Watch Procedures, Appendix A, was initially posted on the yahoo work group of Fire and Life Safety Professionals, the shortened name version of the work group is called EPARADE. This group was a resource and outgrowth of the NFA’s Prevention Advocacy Resources and Data Exchange (PARADE) initiative. This initiative brings together, state, metropolitan and other life safety professionals in an educational, conference and networking forum held at the NFA biannually. The yahoo group is an outreach effort from PARADE.

At the time the survey was posted to the online group, July 21, 2011 – August 7, 2011, the membership to the group was approximately 910, standing now at 920 in October of 2011. The survey netted 15 respondents who all completed the questionnaire anonymously and in total. It is not known if the members of the group received the survey link in their direct email accounts or if they had to log on to the EPARADE (2011) network to read the survey request, this depends

on how they have their account settings applied with the group. The survey question number 3, 6 and 7 helped answer research question number 5, what are the legal ramifications or aspects of establishing and enforcing a fire watch. Survey questions number 4. Helped answer research questions 4, what qualifications are required of the individual(s) performing a fire watch.

Limitations

The research conducted in this area is limited and part of that problem is due to the applicable standards that address fire watch very broadly. The NFPA standards make one reference as to when and what time frame, a fire watch should be initiated and no reference is made to notify the fire department. When the ICC, particularly the IFC (Council, I. C., 2009) code is used, fire department notification is specified, to be alerted if there is an impairment but the fire code official decides if there is a fire watch instituted, if a building department is the fire code official and/or fire departments do not institute their own amendments, the occupancy type, the number of individuals performing a fire watch, the time between rounds, for any given occupancy including high rise, it is not addressed in any specific terms at all. There is nothing that is required in either the NFPA or ICC codes, dictating that occupants be notified in residences left with impaired life safety systems. The language in the code, including the terminology, AHJ, building fire code official, and fire department used in making notification of or mandated to set up a fire watch of a system impairment is unclear unless the AHJ makes the language clear through amendments. It is paramount that responding fire department get the notification of impairment and if a fire watch is implemented and this language also needs to be made clear.

The survey did not get the number of responses that this researcher had hoped from the target group. The target group would be life safety, and fire prevention professionals, however it

is not known if the survey reached them directly because it may not have reached their personal email addresses, that would depend on how they have their account settings administered.

Survey question number 1, could have had a two part answer if the participant answered yes to having a formal policy, the question should have asked if that policy was accessible to the public. That would have provided additional information. Survey question number 2, should have been the second part of a two part question, the first part could have been, when does your department require a fire watch and then, how your department is notified that a fire watch is necessary. Survey question number six could have been written more clearly and achieved a better response.

RESULTS

What types of existing occupancies will the fire watch apply? This was the first research questions to be answered and the reports that had been filed by fire officers in the field using the PBF, Firehouse,ACS (2008-2011) database and the hand written reports filed by company officers (Pittsburgh, F.A, 2008-2011) conveyed that the lack of a fire watch, where it would have been both warranted and did not exist, consistently revealed that high-rises were at the top of the list, both office space and residential occupancies. This was followed closely by personal care homes for seniors and mental health residences. The IFC (Council, I. C., 2009), states that a building should have a fire watch or be evacuated , where a required fire protection is out of service, but the fire watch or evacuation occurs only when it is required by the fire code official. (p.76). NFPA101, (National Fire Protection Association, 2009) has a defined period of time for system impairment different than the IFC (2009), in that it provides a time frame of notification to the AHJ for an impaired system, and requires a fire watch at the 4 hour point in a 24 hour period, a fire watch should be set up or the building evacuated. The NFPA standard does not

provide an occupancy type that evacuation or fire watch does not apply, therefore one believes it is in any occupancy where a required fire protection is out of service.

Deputy Chief Doug Perry of the San Diego Fire-Rescue department provided specific occupancy types where a fire watch would be immediate and those are high risk, or high hazard, such as schools, hospitals, high-rises, care facilities and R-1 occupancies. R-1 would be hotels, motels or boarding houses or rooms (personal communication, October 11, 2011).

Research question number 2 asked when do other departments require a fire watch? As stated, San Diego's fire watch procedures, both online (San Diego, C.A, 2011) and according to Chief Perry (personal communication October 11, 2011) specify exactly when a fire watch would commence, immediately in the occupancies with high life-risk, hospitals, care facilities, high-rises, R-1 residential occupancies, and care facilities. If the occupancy did not fall into one of these categories, then a fire watch was necessary when the systems could not be restored with a timely manner, and that was suggested to be more than 24 hours (San Diego, C.A, 2011).

Cincinnati uses the language that was adopted by the state of Ohio, which is consistent with the IFC proper, and a fire watch or evacuation would be decided by the fire code official (IFC, I.C. 2009, OIC, 2009). West Des Moines, Iowa, according to Mike Whitsell, (personal communication, West Des Moines, follows the language in the IFC, (2009), and the fire code official makes the determination after notification is made of system impairment.

Research question three asked within what time frames of system impairments would the fire watch apply? Survey question number five provided one of the more thorough responses, the 15 specific response break down can be found in Table 1, however two respondents answered no, referencing there was no specific time frame of system impairment, two respondents answered more than 4 hours which is consistent with NFPA 101. Three respondents indicated that fire

watch would be immediate upon service interruption, of these three; one qualified their response to exempt testing. Several of the responses, such as “depends on the occupancy” in Table 1, seemed to follow either the NFPA 101 (National Fire Protection, 2007), or the language in the IFC (Council, I.C. 2009), it also indicated that the fire code official may have to interpret the impairment.

Table 1

Are there Specific Time Frames (Incident specific; system impairments etc.) that your Department uses that would automatically require a fire watch to be instituted?

No- Was the answer of 2 respondents out of 15

A fire protection system out of service longer than 4 hours, See NFPA 101

Typically if the system is going to be down past 4p.m., then the fire watch procedure is established.

Depends on the type of Business, Generally when a fire protection system will be shut down for more than 4 hours during business hours or when shut down overnight.

When systems are out of service

Any life safety features, ex. Sprinklers, required fire alarm

When the system will be out of service for more than testing

No more than required in the fire code

Depends on the occupancy

Immediate upon system shut down

Emergency sprinkler impairments in residential occupancies

Research question number four, was to define what qualifications, if any, will the individuals performing the fire watch have to possess? It was important to this research to get a

sense of what other fire departments allowed or considered to be qualified to perform a fire watch survey question number 4, asked what qualifications are required of the individual(s) performing a fire watch? Table 2, lists the responses from the 15 completed surveys, interesting to note that only one respondent said that their department did not require any qualifications of a fire watch assignment. This question elicited some of the more complete response language.

The definition of a fire watch was included in the IFC 901.7, (Council, I. C., 2009), however the qualifications of an individual performing a fire watch were not defined. There is one reference to the fire watch individual having the ability or method to notify the fire department in the case of a fire emergency, and that fire watch be the only duty of the person assigned (p. 76)

The results of the research on the qualifications of an individual performing a fire watch were vague when referencing a code and each respondent to the survey appeared that their organization required a wide variation of qualifications. Each interview conducted yielded similar disparity as to no real definition of qualification to perform a fire watch .

Deputy Chief Doug Perry, from San Diego Fire-Rescue, believed that allowing the owners/agents of properties to decide who was perform the fire watch resulted in better compliance with the fire watch when systems became impaired (personal communication, October 11, 2011). San-Diego Fire- Rescue explain to the owner what is required in the beginning, and this method allows for the building owner the flexibility to either pay for a fire watch or conduct it themselves. San Diego fire department personnel check on the fire watch if the watch is to be extended over several days (Perry, D. personal communication, October 11, 1011).

Captain Vassar from Cincinnati Fire Department in Ohio, explained that in some instances the number of persons needed to conduct a fire watch may increase due to the occupancy, for

example a high-rise, but the specific qualifications to perform the functions that Cincinnati outlines are not defined by a training or competency requirement (personal communication, October 10, 2011). Captain Vassar shared a document, or letter of warning that the Cincinnati Fire department sends that indicates that for high-rise occupancies, at least 3 personnel are required to police the buildings, with the floors being walked every 20 minutes (Vassar, M. personal communication, October 10, 2011).

Table 2

What Qualifications are required of the individual(s) performing a Fire Watch?

We hire Firefighters
A firefighter from a different department than ours
Basic Fire safety training, fire extinguisher training, ability to contact FD
We typically ask for the person to be or have been through fire school. (Ohio Firefighter level 1) and would prefer that they are a CFSI a fire inspector. But the minimum would be a firefighter.
Depends on the level of fire watch required, anywhere from an employee from the business, to a licensed security guard to a firefighter.
Depends on the level, if just a manager at the store is doing it, then they are advised what the duties are. They would be advised to call 911, access to fire extinguishers, must walk the building, advise the employees they are on fire watch etc. There might also be a case where it is decided that the FD needs to do it.
The inspector can discuss with the facility the requirements. Allow the facilities staff to do fire watch if they feel they can handle and understand the requirements. The fire watch personnel are additional staff with no duties other than fire watch. We have allowed security companies to do the fire watch.
They must speak English and follow the directions of the policy
No real qualifications other than has to be able to walk the areas in a timely manner and look for signs of fire and be able to make a timely notification. We do require them to fax a copy of their

times and patrols.

Firefighter in some cases, competent person in others

Licensed and bonded private security firm-English speaking with cell phone/radio communication

A responsible person approved by FMO (Fire Marshal's Office)

None, but it sometimes depends on the severity of the condition

Fire personnel are required to attend a short class of their duties/requirements. In those cases where it is in an "in-house" fire watch (employee, etc.) his/her duties are explained in full by a Fire Marshal

The Seattle fire department does not require firefighters or security personnel to conduct fire watches, there is no specific training listed on their website for individuals performing a fire watch, other than in any building where there are required life safety systems and people are sleeping, a dedicated fire watch will be necessary and that is the only duty to be performed, as well as occupancies that are hospitals, schools, high-rise, high hazard and places of assembly (Seattle, W. 2011).

The final research question asked what the legal ramifications or aspects may be of establishing and enforcing a fire watch? The survey tool using questions 3, 6 & 7, provided some background of the experience of other departments in relation to any legal aspects, either positive or negative in establishing or requiring a fire watch.

Table 3 indicates the answers to survey questions 3, and the results appear to compel an owner to inform the AHJ that system impairment exists either by counseling or punishing, to initiate compliance by penalizing them with a monetary loss of one method or another.

Table 3

What Legal or Punitive Recourse does your Department take if Notification of a Fire Watch is Required and is not Made by the Occupancy Owner/Agent?

3- Respondents replied with None

We can fine them but we have to catch them

In house/ NA

In Ohio the Fire Marshal “May” accept a fire watch in lieu of the building being completely evacuated until the system is returned to service. This applies to systems that are required to maintain an occupancy. (required systems) if the system can be proven optional then other choices are presented. (Very few meet this criteria)

All fire code violations are misdemeanors in accordance with our city code up to \$600.00 fine and/or 60 days in jail per violation

Site visit and discussion. We have not had a real problem with this once the site is educated

If they do not comply we will provide them one at the overtime rate of an engine and cite them for non-compliance of a fire system

Never done such, but if needed a Notification of violation (NOV) would be serviced and if that did not address the situation then a warrant could be issued for a code violation. Never had to take such steps!

Closure of business with red tag on the occupancy.

Texas state law allows us to issue a fire marshal’s order and if that is not followed, a criminal class b misdemeanor warrant can be issued.

Because it is a requirement for occupancy the business could be closed.

Referred to office of the State Fire Marshal who has the authority b;y Statute for court action
Citation or revoke Certificate of Occupancy (C of O)

Survey question 6, has your department received any negative legal action when a fire watch was not instituted and should have been? Fourteen of the fifteen respondents said no to this question, and one respondent replied no, and stated that at their last resort, usually other actions can be taken such as relocating people.

Question 7, has your department encountered any negative legal action when a fire watch was instituted? Fourteen of the fifteen respondents said no, one of the respondents said no with added commentary that they try not to use firefighters because it normally does not make the occupancy any safer, and one respondent answer yes to having their department encountering negative legal action after instituting a fire watch however no further details were requested nor given.

This research then turned towards attempting to determine if there was any existing case law that involved a fire watch. Curt Varrone, a well-known attorney in the fire service, and retired Assistant Chief from Providence, Rhode Island Fire department was contacted to help shed light on this subject. Retired Assistant Chief Varrone has acquired and has access to an extensive data base of case law related to issues that affect the fire and emergency services, he used that body of data to aide this researcher in finding any pertinent case law using key words such as fire watch, wrongful death, and fire alarm (personal communication, October 16, 2011).

There were two cases located that could loosely be used for this research and they involved litigation stemming from a fire watch that was ordered by the respective AHJ's. S. III.

Riverboat/Casino Cruises, Inc. v. Hnedak, B... (2007), U.S. District, LEXIS 53776, involved a

Illinois fire marshal ordering a casino boat to have a fire watch due to a lack of adequate exits, the Casino company sued the company that constructed the dock, and sought damages for the costs incurred for fire watch personnel that had to be present until the adequate number of exits were accomplished. The State Fire Marshal's office can issue an order when a building does not meet code. The court denied the lawsuit filed by Riverboat /Casino Cruises, because the agreement between the construction company and the casino stated that any governmental code issue would be resolved within themselves (IV, Conclusion, 2007).

The second case, *Wohl v. City of Hollywood*, 915 F. Supp. 339, involved a hotel property owner who was ordered by the Fire Chief to install a sprinkler system, after their municipality adopted a retroactive sprinkler ordinance imposed on hotels with a date set for compliance, and when compliance did not occur Mr. Wohl was fined and ordered to institute a fire watch using two city firefighters a day, 24 hours a day. Wohl fought the fine and won, he then turned around and sued the city and the Fire Chief, claiming their actions deprived him of his constitutional right to freely engage in contractual relations, and that the fire chief interfered with his right to own land without interference from the government. The Chief was found, by the court, to have qualified immunity, he was acting within the fire code and ordering the fire watch was a fire protection safety measure. This case is directly related to the possibilities of potential legal challenges when a fire watch may be ordered and the owner incurs costs by employing formal fire watch personnel. It also illustrates that at times fines are thrown out by courts in sympathy to defendants opening the door for building owners to pursue litigation against fire departments and fire bureau personnel, upon lifting of those fines.

In the email discussions with Attorney Varrone, this research raised several other issues that are mentioned in the codes in reference to responsibility of impaired systems and notification to fire departments of those impairments, in lieu of an impairment coordinator being assigned, as the code IFC (Council, I C. 2009) the property owner is responsible, and that point being made and enforced has to be made very strong.

DISCUSSION

Responding fire companies exposed an alarming trend that was occurring in the City of Pittsburgh. Upon arrival firefighters were presented with conditions where the life safety system(s) in occupancies were compromised or impaired and notification was never made specifically to the Pittsburgh Bureau of Fire of the impairment. In addition a fire watch was not initiated by the building owner/agents and should have been. In tough economic times fire departments are being forced to make some tough decisions and many times the cuts to personnel occur first within the fire prevention division, in the city of Pittsburgh this impact has been felt. There are no employees of the city of Pittsburgh dedicated to address the systems inside aging occupancies. There have been no personnel from PBF dedicated to physically police these buildings or systems since 2005, and in their place since 2005, three bureau of building inspection personnel who have no fire service background have been hired. The issue is further compounded when you add the looming financial constraints of municipalities that are placing additional burden on taxpayers, building owners and the cost of maintenance to keep buildings up to code continues to rise. The costs associated with planned or unplanned repairs to life safety systems, can be prohibitive for diligent building owners, and there will always be irresponsible builder owners. It should come as no surprise that to save a dollar, sometimes ignoring regulations or continuing to have uninspected occupancies, intentional or not, is easy to owners

to overlook if they feel they are getting squeezed in other directions. It is particularly troubling that in Pittsburgh many of these properties are low income, senior high-rise and to cut additional costs, the properties have eliminated their 24 hour security personnel, leaving the building security system, the life safety systems and a lock box for emergency responders to access for entry during emergencies. This situation is growing more dangerous for tenants and firefighters every day and there is a cost involved here that involves more than money. How do we impress upon or hold accountable building owners for the integrity of their life safety systems and allowing them some room or time to allow for repair, and to know what is required of them immediately in the interim?

When the type of occupancies were reviewed in the Firehouse ACS, software reporting program (2008-2011), and the hard copy complaints filed by company officers in the PBF (Pittsburgh, F.A., 2008-2011), the occupancies of concern were predominantly high-rises, both residential and office space. This was very concerning, as high-rises historically present difficult logistic and labor intensive issues for firefighters. To not know or come by surprise of system impairment makes firefighters extremely uneasy and mistrustful of future safety issues. This is extremely important and cannot be understated. Impaired life safety systems, where arriving firefighters expect operate, and are not operating, put firefighters in jeopardy. This could affect their operational decision making, putting them at risk on active scenes, or providing hesitation and time delay on occupancies that have a history of non-compliance potentially delaying the timely rescue of innocent victims.

When the state of Pennsylvania adopted the Uniform Construction Code (UCC), utilizing the ICC (Council, I.C 2009), group of codes as the new construction bible, there was much confusion as to how larger metropolitan departments would handle maintenance of existing life

safety systems. State certification was made necessary for accepting new life safety systems. Many municipalities did not have state certified code officials, and Pittsburgh was no exception. There was possibly two certified in the Bureau of Building Inspection, certified in construction disciplines and no one certified in Fire Prevention in the PBF. When Pittsburgh was put under fiscal oversight by the state, and budgets were being slashed, the fire prevention division of the PBF was eliminated, therefore, the issue of firefighters inspecting or bearing witness to the required maintenance of life safety systems no longer occurred. At the same time BBI hired personnel, trained them as building inspectors who then became certified as fire inspectors and they were tasked with accepting testing of new and renovated life safety systems, which they continue to witness.

For larger corporate facilities, educational facilities, the universities, the hospitals that are associated with them, these large entities employ twenty four hour security and impairment coordinators as the IFC (Council, I.C. 2009), references in the code, which are supposed to help guide the many and varied properties into code compliance, however, in many instances even these large facilities are not notifying the fire bureau, of impairment. Often, the Fire plans examiner, who is employed by BBI, receives a phone call of impairment, and if he is out of the office, that phone call goes into his voicemail and no notification is made to the fire department (Carroll, C. personal communication, October 25, 2011). The offices and classrooms, in the evening, do not pose a high life safety risk to large numbers of people, however not knowing of the impairment, and not having someone on scene to make that notification if firefighters arrive to an active situation, does put firefighters at risk.

Health Care facilities are overseen by additional governing agencies, beyond the AHJ, and Pittsburgh has a very high concentration of medical facilities and associated collegiate mergers.

Recognizing that health care facilities pose high hazard safety risk in any emergency but particularly in relation to fire and smoke emergencies located within their occupancies, it can be a daunting task to decipher the local and government mandates as it refers to the life safety requirements. Because of the technical complexity of this task the HITF is an organization brought together by the NFPA to guide the industry in how to apply the codes (Solomon, R. 2009). In the HITF June minutes of 2009, it was discussed that there continues to be confusion over what constitutes a system impairment, quite frankly how much of a system has to be impaired to constitute an impairment and that begs the question, at what point is the fire department supposed to be notified and/or a fire watch initiated and that discussion was carried over to the November meeting (Solomon, R., HITF June, 2009: HITF November, 2009).

When applying mandated guidelines, local, state and federal and establishing criteria to apply uniformly, specifically in health care applications, the Joint Commission, the agency that oversees facilities that receive funding through Medicare and Medicaid, (Joint Commission, History, 2010) as an arm of the Joint Commission, employ their own Standards Interpretation Group (SIG), which develop their own criteria for instituting a fire watch, published in the Life Safety, LS.01.02.01, parameters of conducting a fire watch for ambulatory care, home care and hospice care having used the NFPA 101 as their point of reference (Joint Commission, Perspective, 2009).

If entities that have the resources to employ staff dedicated solely to life safety systems and safety inside of hospitals, along with the associations tasked with putting the codes in writing cannot establish for example; a minimum number of sprinkler heads or areas of impairment in order to establish a fire watch or make notification of impairment, how do we expect the owner /agents of limited properties to know what we expect without any guidance at all?

There is no schedule or criteria that are standard in what constitutes impairment, and this was an issue that was discussed within the medical group HITF in June and November of 2009 and this was an issue that Curt Varrone, an attorney and retired Assistant Fire Chief from Providence, R.I. (personal communication, October 21, 2011) also pointed out. It was suggested that possibly, some other factors should come into play, such as if a building sprinkler system is still functioning but the alarm system, or smoke detection is not, and if the goal is to standardize when a fire watch is instituted, would that be a factor in the implementation of a fire watch. Possibly, codes written could treat an occupancy differently due to the level of impairment or adjusting the number of persons performing fire watch; one every 5 floors instead of every floor in a sprinklered occupancy? (Varrone, C., personal communication, October 21, 2011).

In Cincinnati, for a high-rise fire watch, according to Captain Vassar, convey that three individuals are necessary to comply with their policy (personal communication, October 10, 2011). In San Diego, their policy states one guard per floor, in a multistory building or one guard per fire system zone in a single story building (San Diego, C., 2010).

The IFC (Council, I.C, 2009) and the NFPA standards, particularly NFPA 101 (National Fire Protection Association, 2009), simply state that where a required system is out of service, notification would then be made. The IFC makes notification to the fire department, (IFC. 901.7 p. 76) the NFPA 101, states the AHJ should be notified. That is a problem, because in many areas the life safety systems are under the jurisdiction of the building department or building code official.

The life safety systems in high risk occupancies are monitored, many times by a private monitoring company. Barring notification from a private owner, or agent, EOC dispatch or in the case of the city of Pittsburgh, the remote possibility of BBI notifying the PBF that an impairment

was reported, the monitoring company usually could be relied upon to alert the EOC or fire department not only in times of activation but also notified the fire department that a system was in trouble for an extended period of time or that service had been discontinued to a particular address or occupancy. In the latter instance, receiving notification from a monitoring agency, a site visit could be conducted by fire bureau personnel. This is particularly important where there are limited personnel to address issues of this nature. What Pittsburgh has been experiencing, again, unknown as to particularly why notification has stopped, however we recently experienced a fire where the owner received the device initiating notification and the alarm company chose not to retransmit the notification to the EOC or the PBF (Sonitrol, personal communication, October 3, 2011). Admittedly against code and a citation was warranted, however, this was one instance where we were alerted due to a working fire, it is fair to assume that this is probably not the first time this situation has occurred.

Monitoring companies, even at the request of their customers, cannot withhold contacting the appropriate emergency response agencies simply because a paying customer made the request, particularly when there is no one on the property. Mike Whitsell, Deputy Chief and Fire Marshal of the West Des Moines, Iowa fire department introduced this researcher to their departments policy on dealing with monitoring companies that do not perform to the departments expectations, the policy is a “three strikes you’re out” type approach that impresses on the monitoring companies what is expected of them if they wish to retain their accounts in West Des Moines (Whitsell, M., personal communication, August 29, 2011).

It would make sense to have the monitoring agencies included in the expectation of PBF, specifically, immediate notification that a life safety system has been impaired for a set number

of hours. Having the added notification of an alarm company would add redundancy to the notification process and there is much that can be said about redundancy in emergency services.

Jurisdictions such as San Diego, CA and Seattle Washington, compel occupancy owners/agents to notify the fire department of any system impairment through their outlined process, depending on the time of impairment, the process maybe different between night and day, however they advise specifically to institute a fire watch when dealing with properties that fall into specific categories (San Diego, C. 2010; Seattle, F.D, 2005)

If the occupancy falls within a prescribed occupancy type and that is defined and detailed in writing in advance and accessible to the owner/agent, steps can be taken to institute a fire watch with little to no lapse of backup safety measures that are taken to protect occupants. That is the goal to be reached for the PBF.

The time frame in which notification of impairment should be made to the AHJ, or the prescribed time to establish a fire watch is prescribed possibly by the AHJ, in the NFPA 101 (NFPA, 2009), if there is an impairment lasting more than 4 hours within a 24 hour period (p.101.91). The IFC, (Council, I.C., 2009) requires immediate notification, but leaves evacuation or fire watch up to the fire code official.

If a system is being serviced, and technicians are physically on scene, should it be necessary to make notification immediately or is the 4 hour bench mark more realistic? The survey instrument, in response to research question three referencing a time frame for fire watch to begin, yielded 15 responses to survey question 5. The responses are provided in Table 1, and clearly convey that there is no consistent time frame, or standard that is followed.

To this researcher, more distinct and specific parameters for specific occupancy type, and particular life safety system impairment would be more helpful coming from the code

development agencies. For example, if an entertainment venue had a high occupancy permit afforded to them because of the life safety systems present, it should make sense that clear and specific language of the code addressing this with penalty if a system was compromised and notification was not made. The code is adopted, and the adopted printed word is law, in most jurisdictions.

San Diego and Seattle Washington identify specific occupancies where fire watch procedures are immediate and in those occupancies where there is life safety system impairment, they do not wait for code official interpretation (San Diego, C. 2010; Seattle, W. 2011).

The high hazard and complicated life occupancies, hospitals, schools, high-rise, care facilities and R-1 residential, which would be hotels, or motels, that were identified by the San Diego policy (San Diego, C. 2010) seem very practical applications for initiating immediate fire watch protocol and based on their potential for high life loss, immediate action to institute a fire watch is definitive language that would seem to fit in any departments fire watch policy. This researcher would also have to add to the above occupancies, and similar to Seattle Washington's posted policy, places of Assembly where an event was to take place or was in process (Seattle, F.D. 2005). This researcher recognizes that the 2009 IFC (Council, I.C. 2009) contains language for events where there are more than 1000 people present, crowd managers should be present, however, the PBF has not adopted a new version of the code since 2003.

If a fire watch is necessary and the language is clear that it is, who then can accomplish the task, and what qualifications, if any should they have? Attempting to answer research question what qualifications will the individual(s) performing the fire watch have to possess, and using the survey tool, question 4, in Table 2, indicates that in some jurisdictions a firefighter either from their own department or another department is required, and other jurisdictions require

absolutely no qualifications. In Pittsburgh, it does depend on the occupancy, and the challenges or life safety concerns that the occupancy presents. For example, if presented with a problem property that has notoriously been out of compliance, nothing less than a security guard must perform the fire watch. The security company must have provided training to their employees in extinguisher use, communication methods and be able to make contact with emergency responders, and what hazards to look for, as well as keep a log of all rounds accomplished. The time of the rounds is usually set to be a complete walk of every unprotected area every 30 minutes and fire watch is their sole duty.

NFPA 601 *Standard for Security Services in Fire Loss Prevention* (2010), still relies on the AHJ to determine the level of patrol, or how many individuals will be present, it does suggest that the first round be accomplished within the first 30 minutes of each employee's arrival. Communication ability and training in its use, and training for the assignment they are taking, familiarity with the occupancy and a means to notify firefighters in an emergency is the language provided for competency of a fire watch person (p. 601-5).

IFC section 907.1 (Council, I.C., 2009) states that where a fire watch is utilized, the watch person shall have "...at least one approved means of notification of the fire department and their only duty shall be to perform constant patrols of the protected premises..." (p.76). The definition of a fire watch provided by the IFC, simply states that the fire watch be conducted by a qualified individual who can identify and control fire hazards (p. 19).

Seattle Washington's fire department is very clear in their bulletins that a fire watch does not require a firefighter or rented security personnel to perform (Seattle, W., 2005).

Qualifications, as the survey conveyed and as far as the codes are concerned are left determined to the municipality, and for some departments like San Diego, Deputy Chief Perry (personal

communication, October 11, 2011) advised that he believes this method works well for the San Diego Fire department because they allow building owners to decide who will perform the fire watch even if they perform it themselves, if the watch continues for several days they visit. In a tough economy, being flexible with owners could reduce any fear or anxiety of reporting impairment to the fire department. San Diego has run into only one problem property and that was a property in foreclosure which took approximately a month to resolve (Perry, D. personal communication, October 11, 2011).

In today's economy it could be more prudent to allow for flexibility in application of the fire watch as long as the properties comply, and on duty firefighting personnel could visit the properties to ensure they were. If problems arose such as absentee landlords or owners, the fire watch demands and requirements could be modified accordingly. The most important information is for firefighters to know where and when systems are impaired, and to know that someone is policing the areas of impairment who can make timely notification to responding personnel to notify and limit the risks to occupants.

In today's litigious society, it is important to view all changes to policy and procedures under the legal microscope. For this research, when proposing to institute a mandatory fire watch, one should consider what, if any legal ramifications could arise from enforcing a fire watch? This research question was addressed in the survey tool "Fire Watch Procedures" and sent to a specific group of fire and life safety professionals in the EPRADE yahoo group (2011), specifically questions, 3 (answers can be viewed in Table 3), also survey questions 6 and 7 attempted to illicit any negative legal action taken when a fire watch was instituted or when a fire was not instituted and should have been.

First addressing questions 6 and 7, very little information was gleaned from the survey questions in reference to legal actions that may have been taken by parties for the 15 respondents and their communities. Even though the response was limited, it was a positive in this researcher's opinion that there were no outstanding legal challenges, at least for the respondents.

Survey question 3 asked respondents what legal or punitive recourse does your department take if notification of a fire watch is required and is not made by the occupancy owner/agent? Most respondents replied with a type of citation and accompanying fine and this was enough to promote compliance. One respondent offered that noncompliance initiated the action of having a fire department vehicle, on an overtime rate to urge compliance. For two respondents, if compliance was not met, revoking the occupancy permit was the next step or closing the occupancy. One particular respondent suggested that their municipality used the method of a simple site visit and discussion and this was enough to promote compliance.

Inducing fines, or ticketing, as well as forcing an owner of an occupancy to hire firefighters on overtime uses the timeless technique of hitting owners where it hurts, the wallet. It has proven itself to be effective. In most cases these tactics will work, if a fire watch is mandatorily required, and that mandate is clearly spelled out in the adoption of codes it would make sense that any challenge would hold up in court.

This researcher had difficulty finding information on legal challenges that would have occurred involving fire watches whether the fire watch was necessary and didn't occur resulting in life or property loss, or when a fire watch was instituted and was challenged.

Curt Varrone, an attorney and a retired Assistant Chief from Providence Rhode Island fire department was contacted via a connection made on the professional social network LinkedIn.

This researcher contacted Varrone, to request his assistance in locating any potential case history involving a fire watch. Unfortunate or fortunate, depending on how the glass is viewed, Varrone (personal communication, October 16, 2011) researched his extensive data base on fire department related issues, and shared two cases that loosely reference any legal issues resulting from a fire watch.

In *Riverboat/Casino Cruises, Inc. v. Hnedak, B...* (2007), U.S. District, LEXIS 53776, (2007), involved was a Illinois fire marshal who ordered a casino boat to have a fire watch due to a lack of adequate exit. The fire watch went on for some time and the Casino owner incurred costs for the fire watch. At that point the Casino Company sued the company that constructed the dock, and sought damages for the costs incurred for fire watch personnel that had to be present until the adequate number of exits was accomplished. In Illinois the State fire marshal can mandate a fire watch when the occupancy does not meet code. He did that. The plaintiff in this case lost his suit, but for other reasons than the fire watch.

The point to consider is, does the code allow for a fire watch? The answer would be yes, regardless if the code said, the code official can determine if a fire watch or evacuation is necessary, if the code was written to say that when a particular occupancy type does not meet code under any specific conditions, the fire watch will be implemented and the code official may determine steps from that point forward.

The second pertinent case, which can be a little more troubling and in this researchers experience happens quite often, is *Wohl v. City of Hollywood*, 915 F. Supp. 339, (1995) which involved an order made by the Fire Chief to a hotel property owner to install a sprinkler system, after the municipality adopted a retroactive sprinkler ordinance which was imposed on hotels. There was a specific date set for compliance, it came and went, when compliance did not occur

Mr. Wohl was fined and ordered to institute a fire watch using two city firefighters a day, 24 hours a day. Wohl appealed the citations, fought the fine and won. After Wohl won that round, he then sued the city and named the Fire Chief as a party to the suit, claiming their actions deprived him of his constitutional right to freely engage in contractual relations. Wohl also claimed that the fire chief interfered with his right to own land without interference from the government. The court stated that the Chief had qualified immunity because he was acting within the fire code and ordering the fire watch was a fire protection safety measure.

This case presents an example of a legal challenge that could be made if someone believes that their property does not fall under the guidelines of having a life safety system that is required in their particular occupancy type. Retroactive code adoptions have always been difficult for property owners. One best be sure that the occupancy in question meets the requirements for a mandated fire watch.

A legal challenge can be initiated so easily, whether, frivolous or not, the language of the code and its adoption can be a friend or an enemy. Because of this it would help firefighters, fire inspectors and code officials if there were more specific language to be applied in reference to when a fire watch is necessary, particular when dealing with an emergency impairment in specific occupancy types. It is not enough to say that the building owner is responsible for an emergency after hours, when the building owner may be in another state, and the firefighters are on scene, and the code official is at home in their bed.

Working with stakeholders, using clear language, in a method or methods that get the message out, and will improve conditions for everyone involved. Weinrich, (2006) a communications professional, advocates the use of social media, as a marketing tool and in this

information age it would seem to be very easy to achieve. The costs are minimal to add a counter to a website, tracking the number of hits your site received, to know if you are getting your message out. By relaying the message to firefighters in the field they can aide in getting the information to the partners in the field by directing owner/ and tenants to the website for information.

It would also seem plausible that social networking could aide in notification of impairments, the use of twitter for building owners/tenants, and monitoring companies to notify the EOC on duty suppression personnel that impairment just occurred.

RECOMMENDATIONS

The Pittsburgh Bureau of Fire needs to be notified when life safety systems are compromised, this includes planned maintenance when the maintenance is going to keep the system offline for longer than the NFPA 101 suggests which is currently 4 hours. Along with the knowledge that a system is impaired, whether it be a planned impairment or emergency impairment a fire watch should be initiated immediately in specific occupancy types. Those occupancies would include occupancies that are high life safety risks, such as hospitals, schools, hotels, motels, personal care homes requiring life safety equipment and high-rises of all types. System impairments in Assembly occupancies should also have immediate fire watch, if not complete evacuation pending the notification of daytime inspection personnel or emergency responders after business hours.

The entire country is dealing with budget crisis in every aspect of their operations and providing tools that would aid the remaining work force to continue to carry out their mission, with less resources, particularly for the fire service, to save life and protect property, inexpensive tools are needed to address pressing issues, and stronger, more direct code language would help.

The ICC with respect to the IFC and the NFPA should take a look at the language used or lack of direction provided in regards to instituting a fire watch. If this means they should organize a committee or a distinct work group, or task an existing committee to better define parameters for immediate and mandatory application of the fire watch then this should be accomplished. If health care facilities are struggling with what constitutes impairment then it would seem appropriate to provide a table of parameters that for example; if under a number of sprinkler heads impaired, one person per five floors, or if over two floors of sprinkler impairment 3 personnel are needed for a fire watch.

In many jurisdictions building departments have taken over the enforcement of the fire code and fire departments are not receiving the emergency information that they need. Most building code departments do not operate with the same sense of urgency as other first responders do, particularly fire departments.

If the language is not changed in the IFC or the NFPA, cooperative effort must come from the Fire Chief, the Public Safety Director, City Council and the Mayor to help refine and provide definitive parameters that state when a fire watch is mandatory.

It is after careful study that this researcher believes that in most cases, at least the initial fire watch could be designated by the building owner or agent designated by the building owner, this application would seem appropriate particularly in emergency impairments that many times occur in the middle of the night **in cases where** the building does not have a history of noncompliance. Monitoring of the fire watch situation could then be accomplished by intermittent visits of suppression personnel responsible for the area where the occupancy resides.

The policy once adopted would be made accessible on the PBF website, and also on the BBI website, email blast could be sent to business associations, colleges, hospitals, insurance

providers and rental agencies. Firefighters on company acquaintance inspections could advise building owners/managers and agents as to the policy. A site counter could be placed on the website to monitor how many hits or how successful the website is by establishing how many people have accessed it.

Alarm monitoring agencies would be advised and addressed separately and if possible a specific and quick communication line established that alerts not only the EOC but the fire bureau when a system has been in trouble for an extended period of time. This could be a phone number, a twitter account or something of similar and quick notification method, requiring some type of receipt that notification was received, something that does not currently happen with voice mail or when faxes are sent.

For alarm companies that are proven to not work with in the codes established, or within the prescribed requests of the city of Pittsburgh, their continued service within the Pittsburgh area would have to be monitored for vendor removal.

The historical case law to date shows that the implementation of a fire watch, while following the adopted guidelines should not negatively impact the city of Pittsburgh if litigation is initiated or pursued.

The Bureau of Building Inspection and the Fire Bureau are going to have to work more closely and with the same sense of urgency and mission when it comes to policing the life safety systems in occupancies and making sure firefighters know the status of these systems. The firefighters in the street are the ones that need the information. The issue isn't one of jurisdiction, the public that we serve is the same, so should the sense of urgency be shared, particularly because firefighter's lives are also on the line.

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Appendix A

Fire Watch Procedures

1. Does your Department have a formal policy for when a **fire watch** is required?
2. How is your department notified that a fire watch is necessary
3. What legal or punitive recourse does your department take if notification of a fire watch is required and is not made by the occupancy owner/agent?
4. What qualifications are required of the individual(s) performing a fire watch?
5. Are there specific time frames (incident specific; system shut downs etc.) that your department uses that would automatically require a fire watch to be instituted?
6. Has your department received any negative legal action when a fire watch was not instituted and should have been?
7. Has your department encountered any negative legal action when a fire watch was instituted?